REMARKS

Claims 1, 2, 4, 5 and 7-12 are now pending in the present application. Claims 1, 4 and 7 have been amended and claims 11 and 12 have been added. Claims 3 and 6 were canceled by a previous Amendment. Claims 1, 4 and 7 are independent. Reconsideration of this application, as amended, is respectfully requested.

Examiner Interview

A telephone interview was conducted with the Examiner in charge of the above-identified application, Mr. Ross A. Williams on March 8, 2006. In the Interview with the Examiner, Applicant's representative explained to the Examiner that the previous Examiner in charge of the above-identified application, Mr. Michael O'Neill, had agreed not to make the first Office Action after the filing of a Request for Reconsideration (RCE) final, as long as the claims are amended in a substantive way. In view of this, rather than presenting the Amendment dated July 13, 2005 after final, the amendments were presented after the filing of an RCE. In addition, it was explained to the Examiner that the finality of the Examiner's Office Action was premature. Specifically, the Examiner's reliance on the Nauck reference was not necessitated by amendment.

In the interview with the Examiner, the Examiner agreed to withdraw the finality of the last Office Action. The Examiner mailed an Interview Summary on March 24, 2006

indicating that the finality of the last Office Action will be withdrawn. In view of this, Applicants have considered the Examiner's last Office Action to be a non-final Office Action. Entry and consideration of the above amendments are therefore respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 1 and 4 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Lutz et al, U.S. Patent No. 6,592,465. Claims 2, 5, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lutz et al. in view of Nauck, U.S. Patent No. 5,413,345. This rejection is respectfully traversed.

The present invention is directed to a ball trajectory measuring apparatus. Independent claims 1, 4 and 7 exemplify the present invention and recite a combination of elements including the recitation "a calculating portion for calculating position coordinates of the ball based on image data obtained by the first, second and third cameras, and based on position coordinates, directions of optical axes and angles of view of the respective cameras." In addition, claims 1 and 4 recite "wherein the angle of view of the first camera partially overlaps with that of the second camera, and the angle of view of the second camera is related to that of the first camera based on ball images which are simultaneously photographed by the first camera and the second camera, and a correspondence of the coordinates in the angle of view of the first camera to those in the angle of view of the second camera is grasped by calculating means." In addition, independent claim 7 recites "wherein

the first camera and the second camera are located at substantially the same distance, at the same elevation and directly behind the launch point, said first and second cameras are inclined upward from a horizontal direction, and an angle of inclination of said first camera is greater than an angle of inclination of said second camera." Applicant respectfully submits that the Lutz et al. reference relied on by the Examiner fails to teach or suggest the present invention as recited in independent claims 1, 4 and 7.

Referring to Figures 7 and 8 of Lutz et al., cameras 314a and 316 are provided behind the launch point and after the drop point, respectively. In addition, cameras 312a-312d are provided between the launch point and the drop point and aligned with the flight path FP.

In the present invention, coordinates in the angle of view of one camera are related to those in the angle of view of the other camera. In Lutz et al., two cameras are synchronized. "Synchronism" means that time coordinates of one camera are related to those of the other camera. "Synchronism" does not mean to relate the angles of view to each other. In Lutz et al., relating coordinates in the angle of view is not disclosed.

Since the Lutz et al. reference fails to disclose relating the coordinates in the angle of view of one camera to the coordinates in the angle of view of another camera, Applicant respectfully submits that the Lutz et al. reference fails to anticipate independent claims 1 and 4 of the present invention for at least this reason.

In addition, in Lutz et al., there is no description with regard to the calculating portion using "angles of view of the respective cameras" to calculate position coordinates of the

ball as in the presently claimed invention. Referring to page 8, lines 22-32 of the present specification, the above aspect of the present invention is further described. Specifically, it is described that the first camera and the second camera are synchronized with each other. In addition, it is described that the angle of view of the first camera and the angle of view of the second camera are related to each other based on data of the ball images. In addition, the coordinates in the angle of view of the first camera to those in the angle of the second camera is grasped by the calculating portion (see page 8, lines 30-32 of the present specification). The calculating portion then uses the position coordinates, directions of optical axes and angles of view of the respective cameras to calculate position coordinates of the flying ball.

Since the Lutz et al. reference fails to disclose a calculating portion that uses the angles of view of the respective cameras to calculate the position of the ball, Applicant submits that Lutz et al. fails to anticipate independent claims 1, 4 and 7 for at least this reason.

With specific regard to independent claim 7, this claim also recites "wherein the first camera and the second camera are located at substantially the same distance, at the same elevation and directly behind the launch point, said first and second cameras are inclined upward from a horizontal direction, and an angle of inclination of said first camera is greater than an angle of inclination of said second camera."

In the Examiner's Office Action, the Examiner indicates that Figure 9 of Lutz et al. is sufficient to disclose independent claim 7 of the present invention. Referring to Figure 9 of

Lutz et al., two cameras 414a and 414b are located "behind the launch point" as recited in independent claim 7 of the present invention. The Examiner has taken the position that the recitation substantially the same distance and position previously recited in independent claim 7 is taught by the Lutz et al. reference, since the term "substantial" is open to a broad interpretation. Referring to Figure 2 of the present invention, it can be clearly understood that the cameras 1 and 2 are "substantially" at the same position and distance, since they are at the same elevation and distance between the launch point. The term "substantially" has been used, since it is impossible for two cameras to be at the exact location.

Although Applicant does not agree with the Examiner's position with regard to the position of the cameras 9 of Lutz et al., in order to expedite prosecution, independent claim 7 has been amended to recite that the two cameras be "at the same elevation." In Figure 9 of Lutz et al., the two cameras 414a and 414b are located at different elevations. Therefore, Lutz et al. fails to disclose this aspect of the present invention.

With regard to dependent claims 2, 5 and 8-10, Applicant respectfully submits that these claims are allowable due to their respective dependence upon allowable independent claims 1 and 4, as well as due to the additional recitations in these claims.

With regard to the Examiner's reliance on the Nauck reference, this reference also fails to disclose the above-mentioned aspects of the present invention and therefore fails to make up for the deficiencies of Lutz et al.

In view of the above amendments and remarks, Applicant respectfully submits that claims 1, 2, 4, and 7-10 clearly define the present invention over the Lutz et al. reference

relied on by the Examiner. Accordingly, reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Additional Claims

Additional claims 11 and 12 have been added for the Examiner's consideration. Applicants respectfully submit that additional claims 11 and 12 are allowable due to their dependence on independent claim 7, as well as due to the additional recitations in these claims.

Favorable consideration and allowance of additional claims 11 and 12 are respectfully requested.

CONCLUSION

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but merely to show the state-of- the-art, no further comments are deemed necessary with respect thereto.

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.

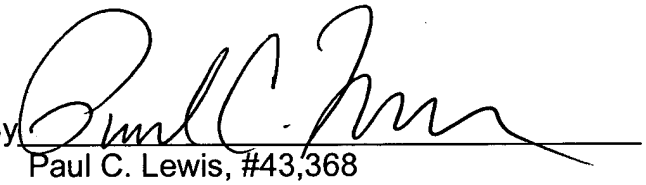
It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
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